

REMARKS

1. Applicant thanks the Examiner for the Examiner's comments which have greatly assisted Applicant in responding.

Applicant has add Claims 57-58 and amended Claims 8, 14, 20, 36, 42, and 48. It should be noted that Applicant has elected to amend said Claims solely for the purpose of expediting the patent application process in a manner consistent with the PTO's Patent Business Goals, 65 Fed. Reg. 54603 (9/8/00). In making this amendment, Applicant has not and does not in any way narrow the scope of protection to which Applicant considers the invention herein to be entitled and does not concede, in any way, that the subject matter of such Claims was in fact taught or disclosed by the cited prior art. Rather, Applicant reserves Applicant's right to pursue such protection at a later point in time and merely seeks to pursue protection for the subject matter presented in this submission.

2. Claim Numbering. Applicant acknowledges the Examiner's renumbering of Claims 43-53 to 44-54.
3. 35 U.S.C. § 102(e). The Examiner has rejected Claims 20-21, 23, 28, 48-49, 51, and 56 under 35 U.S.C. §102(e) as being anticipated by Logan et al. (U.S. Patent number Re. 36,801).

Applicant respectfully disagrees.

Claims 20 and 48 have been amended to clarify the invention and appear as follows:

20. A process for a digital video recorder, comprising the steps of:
 - storing a plurality of multimedia programs in digital form on a storage device;
 - displaying a list of pre-recorded multimedia programs stored on said storage device to a user;

wherein the user selects multimedia programs from said list; simultaneously playing back at least two of said selected multimedia programs from said storage device or at least one of said selected multimedia programs and a multimedia program whose storage is in progress to at least one television monitor; and

wherein said playing back step allows playback rate and direction of each multimedia program to be controlled individually to perform variable rate fast forward and rewind, frame step, pause, and play functions.

48. An apparatus for a digital video recorder, comprising:

a module for storing a plurality of multimedia programs in digital form on a storage device;

displaying a list of pre-recorded multimedia programs stored on said storage device to a user;

wherein the user selects multimedia programs from said list;

a module for simultaneously playing back at least two of said selected multimedia programs from said storage device or at least one of said selected multimedia programs and a multimedia program whose storage is in progress to at least one television monitor; and

wherein said playing back module allows playback rate and direction of each multimedia program to be controlled individually to perform variable rate fast forward and rewind, frame step, pause, and play functions.

In particular, Logan does not teach or suggest a system that displays a list of pre-recorded multimedia programs stored on a storage device to a user, wherein the user selects multimedia programs from said list, and simultaneously plays back at least two of said selected multimedia programs from said storage device or at least one of said selected multimedia programs and a multimedia program whose storage is in progress to at least one television monitor as claimed in the invention. Logan does not contemplate such a system. Logan's invention does not have the capability to pre-record multimedia programs nor does Logan have the capability of displaying a list of pre-recorded multimedia programs.

Additionally, Logan does not have the capability to play back pre-recorded multimedia programs. Logan further does not have the capability to simultaneously play back both a pre-recorded multimedia program and a multimedia program whose storage is in progress to at least one television monitor.

Logan's invention is a delay circuit that employs a circular buffer that constantly records one or more incoming audio or video program signals (Abstract). Logan's purpose is to operate (emphasis added): "when the user of the broadcast receiver is **monitoring the programming concurrently with its reception.**" (col. 1, lines 38-40)

Therefore, Logan's circular buffer stores programming for a limited amount of time before it is written over, thereby delaying the programming by a fixed duration. Col. 3, lines 11-15 state:

"The memory subsystem 5 continually stores the incoming data, writing over the oldest data stored on the hard disk 7, so that a fixed duration or "time window" of prior recorded signals are recorded in the memory subsystem 5 at all times."

Logan teaches that a single circular buffer is used. Logan's single circular buffer handles one incoming video signal. Logan does not teach or disclose storing a plurality of multimedia programs in digital form on a storage device as claimed in the invention. Col. 5, lines 11-15 state:

"The microcontroller 22 maintains a "circular buffer" in the memory system 23 in which the incoming video signal is continuously written to a continuously advancing memory location, writing over the oldest recorded data in the memory system as it advances the writing location."

Therefore, Logan does not have the capability to pre-record a plurality of multimedia programs, nor play back pre-recorded multimedia programs. Logan does not

contemplate playing back at least two pre-recorded multimedia programs from a storage device. Logan further does not contemplate a system that simultaneously plays back both a pre-recorded multimedia program and a multimedia program whose storage is in progress to at least one television monitor.

Additionally, Logan's single circular buffer teaches away from a system wherein said playing back module allows playback rate and direction of each multimedia program to be controlled individually to perform variable rate fast forward and rewind, frame step, pause, and play functions as claimed in the invention.

Logan further does not contemplate displaying a list of pre-recorded multimedia programs stored on a storage device to a user.

Logan therefore does not teach every aspect of the invention either explicitly or impliedly.

Claims 20 and 48 are allowable. Claims 21, 23, 28, and 49, 51, 56 are dependent upon Claims 20 and 48, respectively. Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. §102(e).

4. 35 U.S.C. §103(a). The Examiner has rejected Claims 22 and 50 under 35 U.S.C. §103(a) as being unpatentable over Logan et al. (U.S. Patent number Re. 36,801) in view of Mankovitz et al. (U.S. Patent No. 6,341,195).

The rejection of Claims 22 and 50 under 35 U.S.C. §103(a) is deemed moot in view of Applicant's comments concerning Claims 20 and 48, above. Claims 22 and 50 are dependent upon Claims 20 and 48, respectively, which are in allowable condition. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. §103(a).

5. 35 U.S.C. §103(a). The Examiner has rejected Claims 24-25 and 52-53 under 35 U.S.C. §103(a) as being unpatentable over Logan et al. (U.S. Patent number Re. 36,801) in view of Fujita et al. (U.S. Patent No. 6,292,619).

The rejection of Claims 24-25 and 52-53 under 35 U.S.C. §103(a) is deemed moot in view of Applicant's comments concerning Claims 20 and 48, above. Claims 24-25 and 52-53 are dependent upon Claims 20 and 48, respectively, which are in allowable condition. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. §103(a).

6. 35 U.S.C. §103(a). The Examiner has rejected Claims 26-27 and 54-55 under 35 U.S.C. §103(a) as being unpatentable over Logan et al. (U.S. Patent number Re. 36,801) in view of Kobayashi et al. (U.S. Patent No. 5,754,254).

The rejection of Claims 26-27 and 54-55 under 35 U.S.C. §103(a) is deemed moot in view of Applicant's comments concerning Claims 20 and 48, above. Claims 26-27 and 54-55 are dependent upon Claims 20 and 48, respectively, which are in allowable condition. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. §103(a).

7. 35 U.S.C. §103(a). The Examiner has rejected Claims 8-9, 13-15, 19, 36-37, 41-43, and 47 under 35 U.S.C. §103(a) as being unpatentable over Logan et al. (U.S. Patent number Re. 36,801) in view of Yasukohchi et al. (U.S. Patent No. 6,278,837).

Applicant respectfully disagrees.

Claims 8, 14, 36, and 42 have been amended to clarify the invention and appear as follows:

8. A process for a digital video recorder, comprising the steps of:
receiving a plurality of television broadcast signals;

storing each television broadcast signal in a digital form on a storage device;

providing a plurality of output devices;

wherein each output device extracts a specific digital broadcast signal from said storage device;

wherein at least two output devices simultaneously extract different digital broadcast signals;

converting each specific digital broadcast signal into a television output signal;

sending television output signals to at least one display device; and

wherein said converting step allows playback rate and direction of each television output signal to be controlled individually to perform variable rate fast forward and rewind, frame step, pause, and play functions.

14. A process for a digital video recorder, comprising the steps of:

receiving a plurality of input streams;

storing said plurality of input streams in digital form on a storage device;

providing a plurality of output devices;

wherein each output device extracts a digital stream from said storage device;

wherein at least two output devices simultaneously extract different digital streams;

decoding each digital stream into a television output signal;

sending television output signals to at least one display device; and

wherein said decoding step allows playback rate and direction of each television output signal to be controlled individually to perform variable rate fast forward and rewind, frame step, pause, and play functions.

36. An apparatus for a digital video recorder, comprising:

a module for receiving a plurality of television broadcast signals;

a module for storing each television broadcast signal in a digital form on a storage device;

a plurality of output devices;
wherein each output device extracts a specific digital broadcast signal from said storage device;
wherein at least two output devices simultaneously extract different digital broadcast signals;
a module for converting each specific digital broadcast signal into a television output signal;
a module for sending television output signals to at least one display device; and
wherein said converting module allows playback rate and direction of each television output signal to be controlled individually to perform variable rate fast forward and rewind, frame step, pause, and play functions.

42. An apparatus for a digital video recorder, comprising:
a module for receiving a plurality of input streams;
a module for storing said plurality of input streams in digital form on a storage device;
a plurality of output devices;
wherein each output device extracts a digital stream from said storage device;
wherein at least two output devices simultaneously extract different digital streams;
a module for decoding each digital stream into a television output signal; and
a module for sending television output signals to at least one display device;
wherein said decoding module allows playback rate and direction of each television output signal to be controlled individually to perform variable rate fast forward and rewind, frame step, pause, and play functions.

As discussed above, Logan teaches that a single circular buffer is used. Logan's single circular buffer handles one incoming video signal. Logan does not teach or

disclose storing each television broadcast signal in a digital form on a storage device as claimed in the invention.

Additionally, as described above, Logan does not have the capability to store a plurality of input streams in digital form on a storage device as claimed in the invention. Logan's single circular buffer teaches away from such a system.

Further, Logan's single circular buffer teaches away from a system that allows the playback rate and direction of each television output signal to be controlled individually to perform variable rate fast forward and rewind, frame step, pause, and play functions as claimed in the invention.

Yasukohchi teaches that an improved video surveillance system is controlled by multiple user interfaces. Each user interface can request a video channel circuit and receives the request channel data for the assigned channel (col. 1, lines 29-30, col. 2, lines 18-24, col. 3, lines 11-19, col. 3, lines 50-54). The system performs a time-division operation on the incoming video signals where video frames from different sources (*i.e.*, switching between video cameras) are placed in segments in a file (col. 7, lines 26-64). Each video data outputting circuit shares access to the file (col. 4, lines 64-67).

The Office Action states:

"It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the capability of recording and reproducing multichannel video signal as taught by Yasukohchi et al into Logan et al's system in order to increase the flexibility of the system of Logan et al by allowing plurality of users to access video signal recorded on the disc unit."

There is no teaching or suggestion to combine the references as suggested by the Office Action. Nevertheless, combining Logan and Yasukohchi as the Office Action suggests would result in a single circular buffer performing time-division operations on

incoming video signals where the users would select the sequence of interlacing of video frames between the incoming video signals to be placed in the circular buffer. Video data outputting circuits would share the circular buffer's output.

This combination that the Office Action suggests is not what is claimed in the invention.

Therefore, Logan in view of Yasukohchi do not teach or disclose the invention as claimed.

Claims 8, 14, 36, and 42 are allowable. Claims 9, 13, and 15, 19, and 37, 41 and 43, 47 are dependent upon Claims 8, 14, 36, and 42, respectively. Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. §103(a).

8. 35 U.S.C. §103(a). The Examiner has rejected Claims 10, 12, 16, 18, 38, 40, 44, and 46 under 35 U.S.C. §103(a) as being unpatentable over Logan et al. (U.S. Patent number Re. 36,801) in view of Yasukohchi et al. (U.S. Patent No. 6,278,837) and further in view of Fujita et al. (U.S. Patent No. 6,292,619).

The rejection of Claims 10, 12, 16, 18, 38, 40, 44, and 46 under 35 U.S.C. §103(a) is deemed moot in view of Applicant's comments concerning Claims 8, 14, 36, and 42, above. Claims 10, 12, and 16, 18, and 38, 40, and 44, 46 are dependent upon Claims 8, 14, 36, and 42, respectively, which are in allowable condition. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. §103(a).

9. 35 U.S.C. §103(a). The Examiner has rejected Claims 11, 17, 39, and 45 under 35 U.S.C. §103(a) as being unpatentable over Logan et al. (U.S. Patent number Re. 36,801) in view of Yasukohchi et al. (U.S. Patent No. 6,278,837) and further in view of Mankovitz et al. (U.S. Patent No. 6,341,195).

The rejection of Claims 11, 17, 39, and 45 under 35 U.S.C. §103(a) is deemed moot in view of Applicant's comments concerning Claims 8, 14, 36, and 42, above. Claims 11,

and 17, and 39, and 45 are dependent upon Claims 8, 14, 36, and 42, respectively, which are in allowable condition. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. §103(a).

10. 35 U.S.C. §103(a). The Examiner has rejected Claims 1-2, 6-7, 29-30, and 34-35 under 35 U.S.C. §103(a) as being unpatentable over Logan et al. (U.S. Patent number Re. 36,801) in view of Kobayashi et al. (U.S. Patent No. 5,754,254) and further in view of Yasukohchi et al. (U.S. Patent No. 6,278,837).

Applicant respectfully disagrees.

As described above, Logan's single circular buffer teaches away from a system that allows the playback rate and direction of each television output signal to be controlled individually to perform variable rate fast forward and rewind, frame step, pause, and play functions as claimed in the invention.

Kobayashi teaches a system that accepts a plurality of digital video audio signals into a switcher (Fig. 3, col. 3, lines 10-18). An input circuit converts the signals from serial to parallel. A demultiplexer output digital video signals and digital audio signals (col. 3, lines 49-55). A video audio multiplexer superimposes digital audio signals over digital video signals which is output to a VTR (col. 3, line 56-col.4, line 7). Kobayashi teaches a digital video audio mixing system.

The Office Action further states:

"It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the switching system as taught by Kobayashi et al into Logan et al's system in order to increase the quality of the video signal by processing the video and audio signals separately."

There is no teaching or suggestion that Kobayashi's invention will increase the quality of the video signal by processing the video and audio signals separately as the Office

Action speculates. Additionally, there is no teaching or suggestion in Logan that the quality of the video signal in Logan requires improvement. Further, there is no teaching or suggestion to combine the references as suggested by the Office Action. To reach the Office Action's conclusion would require information gleaned from the present invention. Such use of hindsight is impermissible.

Kobayashi specifically teaches a digital video audio mixing system. Combining Logan with Kobayashi would result in a system where a circular buffer is used to mix a plurality of digital video and digital audio signals. This is not what is claimed in the invention.

As described above, combining Logan and Yasukohchi as the Office Action suggests would result in a single circular buffer performing time-division operations on incoming video signals where the users would select the sequence of interlacing of video frames between the incoming video signals to be placed in the circular buffer. Video data outputting circuits would share the circular buffer's output. This combination that the Office Action suggests is not what is claimed in the invention.

Therefore, Logan in view of Kobayashi and further in view of Yasukohchi do not teach or disclose the invention as claimed.

Claims 1 and 29 are allowable. Claims 2, 6-7, and 30, 34-35 are dependent upon Claims 1 and 29, respectively. Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. §103(a).

11. 35 U.S.C. §103(a). The Examiner has rejected Claims 3, 5, 31, and 33 under 35 U.S.C. §103(a) as being unpatentable over Logan et al. (U.S. Patent number Re. 36,801) in view of Kobayashi et al. (U.S. Patent No. 5,754,254) and Yasukohchi et al. (U.S. Patent No. 6,278,837) and further in view of Fujita et al. (U.S. Patent No. 6,292,619).

The rejection of Claims 3, 5, 31, and 33 under 35 U.S.C. §103(a) is deemed moot in view of Applicant's comments concerning Claims 1 and 29, above. Claims 3, 5, and

31, 33 are dependent upon Claims 1 and 29, respectively, which are in allowable condition. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. §103(a).

12. 35 U.S.C. §103(a). The Examiner has rejected Claims 4 and 32 under 35 U.S.C. §103(a) as being unpatentable over Logan et al. (U.S. Patent number Re. 36,801) in view of Kobayashi et al. (U.S. Patent No. 5,754,254) and Yasukohchi et al. (U.S. Patent No. 6,278,837) and further in view of Mankovitz et al. (U.S. Patent No. 6,341,195).

The rejection of Claims 4 and 32 under 35 U.S.C. §103(a) is deemed moot in view of Applicant's comments concerning Claims 1 and 29, above. Claims 4 and 32 are dependent upon Claims 1 and 29, respectively, which are in allowable condition.

Therefore, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. §103(a).

CONCLUSION

Based on the foregoing, Applicant considers the present invention to be distinguished from the art of record. Accordingly, Applicant earnestly solicits the Examiner's withdrawal of the rejections raised in the above referenced Office Action, such that a Notice of Allowance is forwarded to Applicant, and the present application is therefore allowed to issue as a United States patent.

Respectfully Submitted,


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Version with markings to show changes made

In The Claims

Please add Claims 57-58. Please charge additional claim fees to deposit account no. 07-1445.

Please amend Claims 8, 14, 20, 36, 42, and 48 as follows (Marked copy):

8. (amended) A process for a digital video recorder, comprising the steps of:
receiving a plurality of television broadcast signals;
storing each television broadcast signal in a digital form on a storage device;
providing a plurality of output devices;
wherein each output device extracts a specific digital broadcast signal from said storage device;
wherein at least two output devices simultaneously extract different digital broadcast signals;
converting each specific digital broadcast signal into a television output signal;
sending television output signals to at least one display device; and
wherein said converting step allows playback rate and direction of each television output signal to be controlled individually to perform variable rate fast forward and rewind, frame step, pause, and play functions.

14. (amended) A process for a digital video recorder, comprising the steps of:
receiving a plurality of input streams;
storing said plurality of input streams in digital form on a storage device;
providing a plurality of output devices;
wherein each output device extracts a digital stream from said storage device;
wherein at least two output devices simultaneously extract different digital streams;
decoding each digital stream into a television output signal;

sending television output signals to at least one display device; and
wherein said decoding step allows playback rate and direction of each
television output signal to be controlled individually to perform variable rate fast
forward and rewind, frame step, pause, and play functions.

20. (amended) A process for a digital video recorder, comprising the steps of:
storing a plurality of multimedia programs in digital form on a storage device;
displaying a list of pre-recorded multimedia programs stored on said storage
device to a user;

wherein the user selects multimedia programs from said list;

simultaneously playing back at least two of said selected multimedia programs
from said storage device or at least one of said selected multimedia programs and a
multimedia program whose storage is in progress to at least one television monitor;
and

wherein said playing back step allows playback rate and direction of each
multimedia program to be controlled individually to perform variable rate fast forward
and rewind, frame step, pause, and play functions.

36. (amended) An apparatus for a digital video recorder, comprising:
a module for receiving a plurality of television broadcast signals;
a module for storing each television broadcast signal in a digital form on a
storage device;

a plurality of output devices;

wherein each output device extracts a specific digital broadcast signal from said
storage device;

wherein at least two output devices simultaneously extract different digital
broadcast signals;

a module for converting each specific digital broadcast signal into a television
output signal;

a module for sending television output signals to at least one display device;
and

wherein said converting module allows playback rate and direction of each

television output signal to be controlled individually to perform variable rate fast forward and rewind, frame step, pause, and play functions.

42. (amended) An apparatus for a digital video recorder, comprising:
- a module for receiving a plurality of input streams;
 - a module for storing said plurality of input streams in digital form on a storage device;
 - a plurality of output devices;
 - wherein each output device extracts a digital stream from said storage device;
 - wherein at least two output devices simultaneously extract different digital streams;
 - a module for decoding each digital stream into a television output signal; and
 - a module for sending television output signals to at least one display device;
 - wherein said decoding module allows playback rate and direction of each television output signal to be controlled individually to perform variable rate fast forward and rewind, frame step, pause, and play functions.
48. (amended) An apparatus for a digital video recorder, comprising:
- a module for storing a plurality of multimedia programs in digital form on a storage device;
 - displaying a list of pre-recorded multimedia programs stored on said storage device to a user;
 - wherein the user selects multimedia programs from said list;
 - a module for simultaneously playing back at least two of said selected multimedia programs from said storage device or at least one of said selected multimedia programs and a multimedia program whose storage is in progress to at least one television monitor; and
 - wherein said playing back module allows playback rate and direction of each multimedia program to be controlled individually to perform variable rate fast forward and rewind, frame step, pause, and play functions.

57. (new) The process of Claim 20, wherein said playing back step plays back said at least two of said multimedia programs in a picture in a picture format to a television monitor.

58. (new) The process of Claim 48, wherein said playing back module plays back said at least two of said multimedia programs in a picture in a picture format to a television monitor.